ELSEVIER

Journal of English for Academic Purposes 8 (2009) 152–164

Journal of ENGLISH for ACADEMIC PURPOSES

www.elsevier.com/locate/jeap

English for research purposes at the University of Santiago de Compostela: a survey

Francisco Javier Fernández Polo*, Mario Cal Varela

Department of English Philology, University of Santiago de Compostela, Spain

Abstract

Although much research has now accumulated on the dominance of English in world science, attention to the specific reality of Southern European countries has been comparatively scarce. This paper intends to partly redress this imbalance by reporting on survey data gathered at the University of Santiago de Compostela, Spain. Data were collected by means of a 25-item postal questionnaire sent to the research staff of 25 (1/3) of the University's departments. A total of 213 questionnaires were returned (24.94% return rate). Generally, findings indicate that English clearly plays a lesser role than in other institutions previously investigated, that the local languages are still the default choice for most functions and that there is a localized but significant demand for other foreign languages as well. While some groups of respondents already estimate their current English writing competence to be sufficient, most staff are keenly aware of an increasing pressure to improve their English-speaking skills and of their deficits in this area. Finally, means available in the institution to meet the staff's English needs are comparatively scarce, which is likely to place them in a difficult position vis-à-vis other more 'privileged' groups of NNS scholars, particularly in Europe.

Keywords: English for research purposes; Spain; Survey; Non-native speaker; Language needs

1. Introduction

By now it has become a commonplace to state that English is the lingua franca of science, as it is in many other areas of human activity (Crystal, 2003; Graddol, 1997). This situation generates mixed feelings not only in the global scientific community but also among sociolinguists and EAP scholars and practitioners. While some view this dominance as a blessing that facilitates the knowledge exchange and dialogue that are essential to the development of science (Crystal, 2003), its critics and detractors see in it a source of all sorts of problems: discrimination of individuals and groups (Gibbs, 1995), colonisation of the registers of the local languages that put at risk the very future of these tongues (Dužak, 2006; Gunnarsson, 2001), division within national scientific communities (Eggington, 1987), empoverishment of science and knowledge-construction in general (Canagarajah, 1996; Gibbs, 1995), alienation of science and scientists from society (Gunnarsson, 2001; Mendieta, Phillipson, & Skutnabb-Kangas, 2006; Truchot, 1990), among others. Some minimize the importance of these allegations, simply dismissing

* Corresponding author. Facultade de Filoloxía, Despacho 307. Avda. de Castelao, s/n. Universidade de Santiago, Santiago de Compostela 15782, Spain. Tel.: +34 981563100x11858; fax: +34 981574646.

E-mail address: xabier.fernandez@usc.es (F.J. Fernández Polo).

1475-1585/$ - see front matter © 2009 Elsevier Ltd. All rights reserved.
doi:10.1016/j.jeap.2009.05.003

them as mere anecdotes (Crystal, 2003) or providing empirical evidence of their inexistence (Swales, 2004; Wood, 2001).

Whatever the overall consequences of this superimposition of English as a lingua franca of science, there is evidence that it is not being experienced similarly everywhere. Some scientific communities are faring better than others, seem to be better prepared and to be finding it easier to cope with the difficulties, both linguistic and material, involved. A significant amount of research has now accumulated on the situation in different parts of the world. Earlier studies done in the 1980's and 1990's (Ammon, 1994; Baldauf & Jernudd, 1983; Flowerdew, 1999; Skudlik, 1990; Truchot, 1990; Tsunoda, 1983) have recently been complemented by numerous contributions on a wider variety of geographical areas. Ammon's (2001a) collective volume testifies to this fresh interest in the dominance of English in research and provides a much-needed empirical basis to the hot debate on the pros and cons of English dominance in science.

However, accumulated research only provides a partial picture of the situation worldwide, and rather significant gaps still remain. Ammon (2001a, p. V) himself stresses the importance of describing the finer details of the picture for a better understanding of this complex issue. The existence of numerous gaps in the data probably results in a distorted picture, where dichotomies are exaggerated: it is possible that the current excessive emphasis on the disparities between Western centre and Third-World periphery might mask a more complex reality within both the centre and the periphery poles themselves, and that a closer look might reveal the existence of a periphery within the centre, with scholars facing similar material and linguistic problems to those in the periphery (Curry & Lillis, 2004).

This might be the case of Spain and other countries in Southern Europe. Ammon (2001b, p. 352) hypothesizes that in a scale of English language skills, scholars from Southern Europe, including Spain, would probably occupy the lower rungs in the continent. And he suggests that these difficulties with English might already be acting as a serious handicap, with Spanish scientists, for instance, probably participating less than their European colleagues in international conferences and research projects, a hypothesis that, he suggests, ''might be worth while probing into.'' The lack of data on the situation in Spain is the more striking, given the relative importance of Spanish science in the international context, ranking 9th among world countries in the total number of published research documents.[1]

Through this survey we intend to partly fill this gap by investigating the current use, needs and attitudes towards English of the research and teaching staff of one of the most prominent research institutions in Spain, the University of Santiago de Compostela (USC). As regards research activity and publication output, USC ranks 7th – out of a total of 283 – on the list of Spanish research centres elaborated by the SCImago Group, citing data from the Thomson Scientific ISI databases, 13th out of the top 700 research institutions in Latin America, Portugal and Spain. Being one of the oldest universities in Spain, the USC shows a natural skew towards the more traditional areas of Law, Medicine, Pharmacy, Chemistry or History and Geography, with engineering and other technical areas being comparatively underrepresented. Another specificity of the USC in the Spanish context, and one which is particularly relevant for the present study, is its strong commitment to promote the use of Galician, the co-official language of the region, in both research and teaching, as part of a wider effort to extend the local language to areas traditionally dominated by Spanish. In this sense, the survey should contribute, among others, to a better understanding of the role of English as a third language of science in contexts such as the Galician one with two official languages and a strong language planning policy of normalization of the local language.

Interest in EAP in Spain has thrived, especially in the last decade. A lot of this work consists in descriptive and applied research on the differences between academic and research English and Spanish and on the language problems of Spanish scholars writing in English (Lorés Sanz, 2004; Martín Martín, 2005; Moreno, 1997; Moreno & Suárez, 2008; Mur Dueñas, 2007). Less attention has been paid, however, to issues of a more sociological nature, such as the actual degree of use and need of English by Spanish scientists, issues of language choice in different contexts or how our scholars are faring in the fierce competition they face to disseminate their research internationally in English. These topics are at the core of the present survey.

Literacy issues, such as the description of the Spanish academics' actual communicative practices and experiences in English, also remain largely unexplored, with the notable exceptions of Burgess (2002) and St.-John (1987).

More recently, drawing on social practice theories of academic literacy and using ethnographic research methods and discourse analysis, Curry and Lillis (2004) and Lillis and Curry (2006a, 2006b) investigated the writing

[1] SCImago. (2007). SJR — SCImago Journal & Country Rank. Retrieved February 12, 2008, from http://www.scimagojr.com.

processes and practices of a group of Spanish scholars, among others. Their research provides unique insights into such issues as individual perceptions of the benefits of publishing in English, the material resources and language support means employed by Spanish scholars to help them with their writing in the foreign language, the roles of various literacy brokers such as journal editors and different native English-speaking language supervisors or the distinct functions of different languages of publication, including the scholars' own native language and English.

Some of these topics are also addressed in the present study. However, using a survey as a research method gives us the possibility of obtaining information about larger groups than those analysed by Lillis & Curry and providing complementary quantitative evidence to some of their findings. Furthermore, our survey covers a much wider spectrum of academic disciplines, ranging from Humanities to Experimental Sciences, allowing for comparability between them. This objective is important given that the role of English as an international language seems to differ significantly across disciplines and probably so too the problems and strategies employed by non-Anglophone scholars in the different areas of science.

In this paper, after a short presentation and justification of the research methodology employed, with a special emphasis on the description of the data gathering processes and tools, we shall first describe the main findings of the survey and then discuss their relevance. The original motivation for doing the survey was to obtain a general picture of the foreign language situation and, more specifically, of the English language needs of the research and teaching staff at the USC, a sort of macro needs analysis, which would serve as an objective basis for future training initiatives. In spite of the obvious English needs of the staff, no similar studies had been conducted so far, which might explain the lack of training initiatives, a situation that this survey intended to remedy. Therefore, the research was originally designed with a clearly applied purpose. Although reference will be made in this paper to the practical consequences of the data, including their translation into practical recommendations for future foreign language training initiatives on the part of the institution, the applied, local element of the research will be voluntarily downplayed here, and the emphasis throughout will be on the wider relevance of the data, particularly as they reveal the fine details of the complex picture of English as a lingua franca of science as described in the previous paragraphs.

2. Methodology

Data for the study were collected by means of a postal questionnaire sent to a sample of the university's research and teaching staff through the institution's internal mail. An initial set of questions was drafted following a series of brief interviews with prominent members of some departments noted for their outstanding research output in English and a well-established policy of recommending English readings to students from early stages. These initial exploratory interviews served the purpose of gauging the extent to which the dominant position of English was felt to be a problem and at the same time helped identify the relevant dimensions of the issue for further in-depth analysis. A preliminary version of the questionnaire was then piloted with the help of ten researchers from Mathematics, Chemistry and Psychology departments which were not included in the final sample.

Once some corrections were made in the wording and arrangement of items, the final version of the questionnaire was printed in Galician[2] on a four-page folded A3-sized sheet. It contained 25 questions which, with a single exception, had pre-set answers or scales. The last page was left, as item 25, for the respondents to insert freely their comments or further clarifications. The first five items of the questionnaire cover basic demographic variables (sex, age, category, department and mother tongue). The range of topics covered in the remaining items includes the following: frequency of use of foreign languages —English in particular— at work (items 6 to 11), English learning background (items 12 to 14), perceived needs of English in respondent's research area (item 15), self-assessed competence in English (items 16 and 17), strategies used to publish in English (items 18 and 19), personal preferences as to English language learning (items 20 to 22), quality of institutional language support and translation services (item 23) and attitudes to English (item 24).

Questionnaires were not sent to the entire population of the study. Instead, a third of the research and teaching staff were contacted so that the possibility remained of supplementing the initial sample in a controlled way, in case the response rate turned out to be too low. A cluster sampling procedure was used and 25 of the 76 departments currently

[2] In line with official policies aimed at reversing the endangered status of Galician, this is the default language used in all kinds of written transactions at the institutional level, a measure explicitly endorsed by the University's regulations.

existing at the USC were randomly selected and questionnaires were mailed in two phases to all their members. A random sample of half the research students enrolled at the time in these departments was also included. The number of departments in the sample from each research area was thus proportional to the size of these areas at the USC[3]: Health Sciences (6 out of 18 departments), Experimental Sciences (6 out of 19 departments), Technical (1 out of 3 departments),[4] Social Sciences and Law (7 out of 22 departments) and Humanities (5 out of 14 departments). In all, the number of questionnaires that were mailed was 860, of which 6 were returned as incorrectly addressed. Of the remaining 854, a total of 213 were completed and returned to us. The resulting overall response rate of 24.94% is not untypical for this type of procedure. The distribution of responses across research areas and other respondent variables matched rather closely the actual proportions in the study population with a single exception. The younger groups of informants tended to be comparatively overrepresented in our sample. Thus, informants 35 or under contributed 18.4% of responses, those aged between 36 and 50 contributed 62.1% and those 51 and over contributed 19.5%, while the proportions of the three age groups in the population was respectively 8.78%, 51.9% and 39.2%. This slight bias towards the younger sections in our sample was, however, not completely unexpected considering that awareness and concern about foreign language skills have increased dramatically in the last three decades in Spain. Both sample size and distribution of respondents were therefore considered satisfactory and data collection was regarded as complete for the exploratory purposes of this survey.

Search for patterns in the data has been supported with Chi-square tests of significance in most cases, as responses to 5-point scales in the questionnaire were dealt with as nominal data. When index scores were calculated by combining data from different items (e.g. those from item 24 on attitudes) mean values were calculated and One-Way ANOVA was applied. In the presentation and discussion of results which follows statistical significance is reported between brackets whenever comparative data for different subgroups are given.

3. Results

The picture that emerges from our data reveals a considerable gap between perceived needs and current competence of researchers and, most importantly, the results indicate that close attention must be paid to the specific reality of departmental units, as significant differences obtain across research areas.

An initial set of items focused on the international projection of the research community at the USC. Respondents were asked to estimate the extent to which they depended on the use of a foreign language to perform certain types of academic activities, namely publish research results, collaborate with international research teams, participate in international conferences or spend time at research institutions abroad. Question number 10 extended this inquiry back into the formative years, asking whether a part of the respondent's training (either at the undergraduate or the postgraduate level) had taken place in a foreign country.

Fig. 1 shows the distribution of responses to the first of these questions, on the use of English for publication. When overall data are considered, a clear dichotomy stands out prominently: 42.5% of respondents publish very little or nothing (''less than 25%'') in English, while a similarly high percentage, 37.7%, place themselves at the opposite end, claiming that ''over 75%'' of their work is published in this language. A closer look reveals that this distribution is, in fact, related to research area ($\chi^2 = 116.822$; d.f.: 12; $p = 0.000$). Researchers who work in Experimental Sciences departments are more likely to publish in English (77.8% of respondents from this area chose the ''over 75%'' option) while those in Humanities departments say they seldom use this language (an overwhelming 94.6% of respondents from this area select the ''less than 25%'' option). Respondents from Health Sciences departments seem to follow those working in Experimental Sciences at a distance while those in Social Sciences and Law side more clearly with the Humanities in this respect.

[3] A list of the departments included in the final sample follows. Health sciences: Biochemistry and Molecular Biology, Surgery, Stomatology, Physiology, Obstetrics and Gynaecology, Psychiatry, Radiology and Public Health; experimental sciences: Animal Biology, Edaphology and Agricultural Chemistry, Applied Physics, Plant Physiology, Physical Chemistry, Genetics; social sciences and law: Common Law, Special Public Law, Didactics of Language, Literature and Social Sciences, Finance and Accounting, Quantitative Methods for Business Administration, Clinical Psychology and Psychobiology, Sociology; technical sciences: Plant Production; humanities: Galician Philology, Contemporary History and History of America, Mediaeval and Modern History, Spanish Literature, Literary Theory and General Linguistics, Geography.

[4] The low number of cases (13) from Technical departments has, however, prevented us from drawing conclusions about this section of the sample when areas are compared.

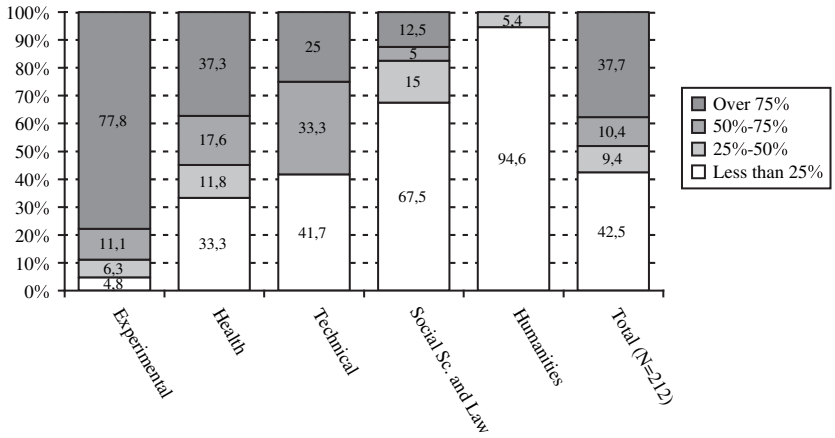

Fig. 1. Percentage of work published in English, by research area ($N = 212$).

Respondents' reports on other areas of activity show somewhat less clearly defined patterns across fields but still converge on this generally low international profile of the research staff at the USC. 73.3% of respondents say that less than a fourth of the projects in which they participated over a five-year period counted foreign researchers among team members. This percentage rises to 89.5% among respondents from Social Sciences and Law departments, the least international ones in our sample in this respect. Research stays (of over ten days) at foreign institutions also turned out to be rather infrequent: 55% of respondents said that they had not taken part in this kind of experience in the last five years, with no significant differences found across areas. Finally, the overall frequency of attendance at international conferences is only moderate, as 44.3% of the participants in our survey take part in this kind of event less than once a year. Significant differences obtain, however, once more between Social Sciences and Law departments on the one hand and Experimental departments on the other, the percentage of respondents reporting a frequency of at least once a year rising from 25% among the former to 69.8% in the latter area ($\chi^2 = 31.744$; d.f.: 8; $p = 0.000$).

English is obviously not the only foreign language which is used across the campus for all these functions. French, Portuguese, Italian and German are also significantly present as part of the researchers' linguistic repertoires. Fig. 2 shows the percentage of respondents by research area who report using any of these languages at least moderately (3 or above on a 5-point scale). Against a general background where English certainly prevails across the board, the linguistic practices characteristic of the Humanities in particular, and to a great extent of the Social Sciences and Law departments, stand out as somewhat more balanced and less clearly English-dominated as compared to the

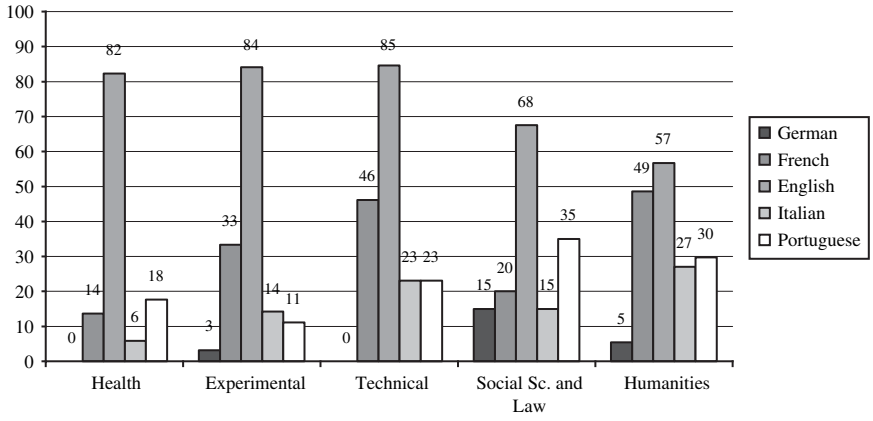

Fig. 2. Frequency of use of different foreign languages for academic purposes, by research area ($N = 203$).

departments in the Health or, to a lesser degree, the Experimental areas at the other end. A case in point is, for example, the department of Special Public Law, none of whose six representatives in our sample actually claim to use English at all. Also noteworthy is the comparatively intense use of French not just among Humanities researchers but also in many Experimental departments, one in three of whose researchers claim to use it rather regularly.

The prevalence of English is not distributed homogeneously across a range of functions either. Item 15 of the questionnaire tapped respondents' perceptions as to how much English is needed in their specific areas for a set of regular academic tasks. The results, shown as Fig. 3, indicate that demand for English varies in intensity as a function of communicative purpose but that 'needs' tend to be ranked similarly across research areas. Thus, English is mostly needed for reading specialized texts in all fields, with 82.1% of respondents grading its relevance for this purpose as 4 or 5 on a 5-point scale. Next on the ranking comes reading instruction manuals and similar texts (including instructions for widely used computer applications), where 71.3% of all respondents consider English is highly needed. The use of English for publishing research is ranked third on this list (overall 60.3% of responses in the 4–5 range), although the noticeably wider scatter of responses is here due to the remarkable differences across fields which have already been pointed out above. While researchers in the Experimental areas tend to consider that English is, in practice, essential for publication, with 87.3% of respondents from these areas grading this need as 4 or above, responses from the Humanities tend to concentrate at the lower end of the scale. 81% of participants from the latter research area actually assess the need to publish in this language as 2 or less. The use of English at conferences occupies a slightly lower position as compared to publishing results, with 54.7% of all responses within the 4–5 range, but greater consensus is found in this case across fields. Finally among the strongly felt needs, we find training or research stays abroad, with 50.5% of responses in the 4–5 range. The three remaining tasks on the list are clearly perceived to demand the use of English to a very low degree. In descending order of importance, we have participation in informal forums (51.5% of responses in the 1–2 range), membership in international research teams (55.2% of responses in the 1–2 range) and teaching (63.2% of responses in the 1–2 range).

Researchers count on a generally poor language learning background to try to cope with this level of demand for English. Formal acquisition of this language often ceases immediately after secondary school and, since ELT has been implemented only gradually over the past few decades as part of compulsory education, exposure to English at the primary and secondary stages decreases with age. 59.6% of respondents in the ''35 and under'' age range have studied English in primary school and this percentage rises to 80.8% when secondary school is considered (see Fig. 4 below). However, these percentages are respectively 29.4% and 59.7% for the 36–50 age range and 2.7% and 21.6% for those aged 51 and over. Significant English learning experiences beyond these educational stages depend heavily on individual initiative, as few of the degree syllabi offered at the USC contain courses focusing on the acquisition of English language skills. At this stage, the trend just described is actually inverted and a much greater proportion of those in the oldest age cohort report having taken up English courses during their tertiary education as compared with

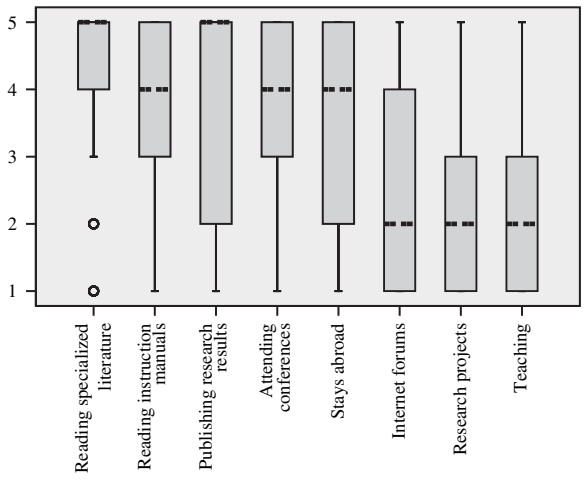

Fig. 3. Level of demand (1 = not used; 5 = very frequently used) of English for different purposes ($N = 213$). The graph shows the range of scores of the middle 50% of responses (the box), the total range of scores (the whiskers) and the median (the dotted line).

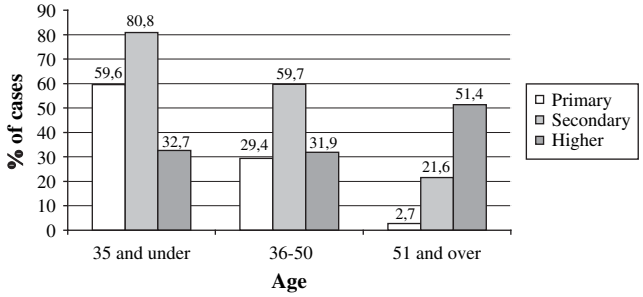

Fig. 4. Formal language training by age ($N = 213$).

the other two age groups: 51.4% of those 51 and over claim to have done so, while the figure is only 32.7% for those 35 and under and 31.9% for those in the 36–50 range. Respondents in the oldest group are obviously more strongly aware of the gap they have to fill in their language background.

One would perhaps expect the language courses taken up during higher education to focus selectively on specialized registers and be, as far as possible, tailored to the more clearly defined needs of these learners. However, our survey results suggest that, in a majority of cases, researchers attend general purpose courses either at public language schools, including the USC Language Centre, or private language academies. During the last ten years, 18.3% of respondents took up at least some course at the elementary level, 32.9% have attended intermediate level courses and 12.2% have attained advanced level certificates. Another frequently chosen alternative has been informal conversation classes, which 31% of respondents report having attended during this same period. Specialized English courses were only reported by 13.1% of the participants in the survey. The remaining response options were courses abroad (11.7%) and a miscellaneous category covering correspondence courses, autonomous learning at a self-access centre and similar learning experiences (30.5%), alternatives which would normally focus on general English too.

The competence resulting from this language training cannot be expected to fit all types of communicative functions with equal effectiveness, even in comparatively restricted academic settings. Our questionnaire contained an item which asked respondents to self-assess their command of English to perform a series of representative tasks combining different options of mode (spoken/written), role (active/passive) and style (formal/informal) using a 5-point scale. Table 1 shows the frequency of the different values on the scale for each of the tasks on the list. Overall results indicate that ''spoken'' is perceived as more difficult than ''written'', that ''active'' is predictably more problematic than ''passive'' and that ''formal'' is found to be rather more challenging than ''informal''. Researchers report a poorer ability to perform those tasks combining a greater number of the less favourable features. Thus, their competence to give a lecture in English is rated at 2 or less on the scale by about 60% of respondents and writing texts for publication in English is also considered beyond their current competence by a considerable part of the sample (47.7% rate themselves at 2 or less). At the other end of this continuum, respondents rate highest their ability to read

Table 1
Self-assessed competence to perform a series of representative tasks in English ($N = 213$; mode in **bold**).

	1 very poor		2		3		4		5 very good	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
Lecturing	**81**	**38.2%**	46	21.7%	56	26.4%	23	10.8%	6	2.8%
Informal conversation	33	15.6%	41	19.3%	**72**	**34.0%**	44	20.8%	22	10.4%
Attending lectures	23	10.8%	39	18.4%	**68**	**32.1%**	45	21.2%	37	17.5%
Writing texts for publication	44	20.8%	**57**	**26.9%**	48	22.6%	46	21.7%	17	8.0%
Writing email messages or informal letters	19	9.0%	22	10.4%	58	27.4%	**73**	**34.4%**	40	18.9%
Reading specialized texts	9	4.2%	8	3.8%	28	13.2%	74	34.9%	**93**	**43.9%**
Searching for information on the Internet	9	4.2%	12	5.7%	33	15.6%	66	31.1%	**92**	**43.4%**

specialized texts (4 or above by 78.8% of our sample) and also to search for information on the Internet (4 or above by 74.5% of the sample). Ratings for other tasks are more evenly spread throughout the scale.

As a complement to this self-assessment of abilities, respondents were also asked to rate the different components of their language competence in English. Table 2 shows the frequency distribution of values for each of the six dimensions considered. Those more closely related to oral production, namely pronunciation and fluency, are overall rated the lowest. Fluency is rated as poor or very poor (2 or less) by 57.6% of our sample and pronunciation is rated in this way by 55.8% of respondents, who, on the whole, exhibit much greater confidence in the use of specialized vocabulary. 57.6% of them rate their command of this dimension at 4 or above. Reported competence in the other dimensions considered can be described as average.

It necessarily follows from the level of competence reported that researchers tend to depend heavily on external help in order to have their work published in English, although strategies vary widely across areas. Slightly over a fourth (26.5%) of respondents who publish in English, mostly from Experimental Sciences departments, write at least on occasion directly in this language without help and send their texts to the publisher without further revision. An alternative which includes native speaker revision prior to submission is also occasionally used by 25.3% of respondents. A similar option (used by 22.9%) is to write an initial version in Spanish or Galician, make a tentative translation into English and then send the text to revision. However, the strategy most frequently opted for (by 31.9%) is to write the text in Spanish or Galician and then send it to a professional translation service. Relying on an English-speaking colleague to do the translation work is much less frequently used (by 13.3%). It is interesting to note that when non professional help is sought for this task expert knowledge in the field is clearly valued over a good command of English. Researchers tend to prefer being helped by an expert colleague from their field with a sufficient knowledge of English rather than by someone with a good command of English but no familiarity with the subject.

Participants in the survey were also asked to choose, from among a number of alternatives, those which best fitted their current needs of English. The options included a series of language training proposals, language support services and an ''other'' option, so that respondents could also suggest other possibilities. Instructions were given in the item heading so that a maximum of three choices could be made. Fig. 5 shows the frequency distribution of responses. The strong preference for informal conversation classes and, to a lesser extent, for specialized courses covering all the skills is consistent with the emphasis laid on lack of oral competence. Our data seem to indicate that a preference for courses focusing on written scientific English should not be taken for granted. They are actually not preferred over general English courses. Language support and translation services are also among the preferences of over a fourth of the respondents, although they can hardly be expected to provide a satisfactory solution for those tasks which involve spoken interaction and for which the researcher is on her/his own before an audience, e.g. the most valued conference presentations.

In line with this, conversation is also the preferred type of activity as part of a regular language course. 82.6% of respondents find it ''rather appealing'' or ''very appealing'' (4 or above on a 5-point scale). Writing activities are also highly valued by a sizeable percentage of our sample. 58.6% of the participants rate this kind of activity at 4 or above on the scale. The remaining types of activities are ranked as follows in terms of percentage of 4–5 ratings: work with audiovisual materials (53.9%), text translation exercises (47.3%), grammar and vocabulary exercises (44.7%) and reading comprehension activities (43.7%).

The questionnaire also included an item on the amount of time respondents would be willing to invest in their language training. It is most significant that one in three respondents to the survey (34.3%) would gladly devote three or more hours per week to improving their knowledge of English, and a further 44.6% would set apart two hours per

Table 2
Reported English competence on different dimensions of language use ($N = 213$; mode in **bold**).

	1 very poor		2		3		4		5 very good	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%
Pronunciation	52	24.8%	**65**	**31.0%**	**65**	**31.0%**	26	12.4%	2	1.0%
Grammar	33	15.7%	61	29.0%	**71**	**33.8%**	40	19.0%	5	2.4%
General vocabulary	19	9.0%	49	23.3%	**95**	**45.2%**	38	18.1%	9	4.3%
Specialized vocabulary	18	8.6%	18	8.6%	53	25.2%	**76**	**36.2%**	45	21.4%
Style	49	23.3%	55	26.2%	**72**	**34.3%**	30	14.3%	4	1.9%
Fluency	58	27.6%	**63**	**30.0%**	58	27.6%	25	11.9%	6	2.9%

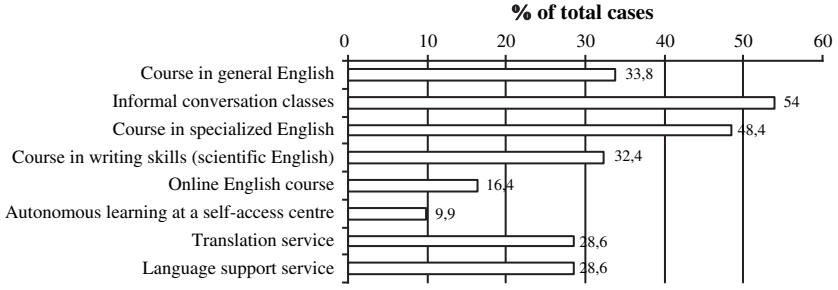

Fig. 5. Respondents' preferences as to ways to cater for their needs of English ($N = 213$).

week of their time to attend English language lessons. No significant differences are found across research areas. Only 8.5% of the participants say they would not devote any time at all to acquiring or improving their English.

The final item of the questionnaire was designed as a Likert scale to measure respondents' attitudes towards the English language. Respondents were presented with seven statements about English and were asked to indicate their level of agreement or disagreement with each of them on a 5-point scale. For each of the 200 respondents who answered all seven Likert items, an attitude score was obtained by adding the seven ratings, taking into account the necessary inversion of the scale for calculation in the case of negatively-oriented items (2 and 5). The possible range of scores was thus 7–35. The actual range for our sample was 10–35, with an average value of 24.71, which can be taken as evidence of a mildly positive attitude towards English among the participants in our survey. One-way ANOVA tests performed on this score reveal minor, but significant, differences between certain groups. Attitudes tend to be slightly more positive among full professors as compared to tenured lecturers (full professors: 27.0; tenured lecturers: 24.1; F: 2.785, d.f.: 3, $p = 0.042$), among men over women (men: 25.3; women: 23.8; F: 4.481, d.f.: 1, $p = 0.036$), and among researchers in the Health Sciences as compared to those in the Humanities (Health: 26.7; Humanities: 23.0; F: 3.784, d.f.: 4, $p = 0.006$). On the whole, however, differences are very small and no group exhibits negative attitudes. Most significantly, the mother tongue declared by respondents has shown no effect on this parameter of attitude, as perhaps might have been expected, considering the weak position of Galician which some may consider under threat from English too.

Finally, a closer look at the frequency distribution of ratings for each item individually, as shown in Fig. 6, may also offer interesting insights. Reactions towards the role of English as the international language of science (statement 1) tend to concentrate around the centre of the scale, without a clearly negative or positive bias. Respondents do not seem to share in the view that English might be putting other languages at risk (statement 2). Rather on the contrary, they accept as a fact the privileged position of this language in the world and agree strongly that our educational system should help us adapt to this reality (statements 3 and 4). Few of them see the current relevance of English in research as an obstacle in their careers (statement 5). With the significant exception of researchers in the Health sciences, however, for most the idea of introducing English as the language of instruction at the undergraduate level (statement 7) tends to be considered as hardly desirable. Reactions to statement number 6, of a more general nature, are consistent with the generally positive attitude just described and deserve no further comment.

4. Discussion and conclusions

The following are the main findings of the present survey. In general, the local languages still play a major role in research, considerably more so than in other research institutions across Europe. English is clearly the preferred foreign language of communication of the research community, and, at least in some disciplines, seems to be well into the process of dislodging the local language in the realisation of certain functions, particularly the dissemination of research findings. And although English does not currently monopolize the foreign language exchanges of researchers to the extent observed elsewhere, and that other foreign languages still play an important role in their lives, the tendency seems to be towards ''more English'', with researchers showing quite favourable attitudes towards English even in those areas where its use is less generalised nowadays. We now expound these findings and comment on their implications.

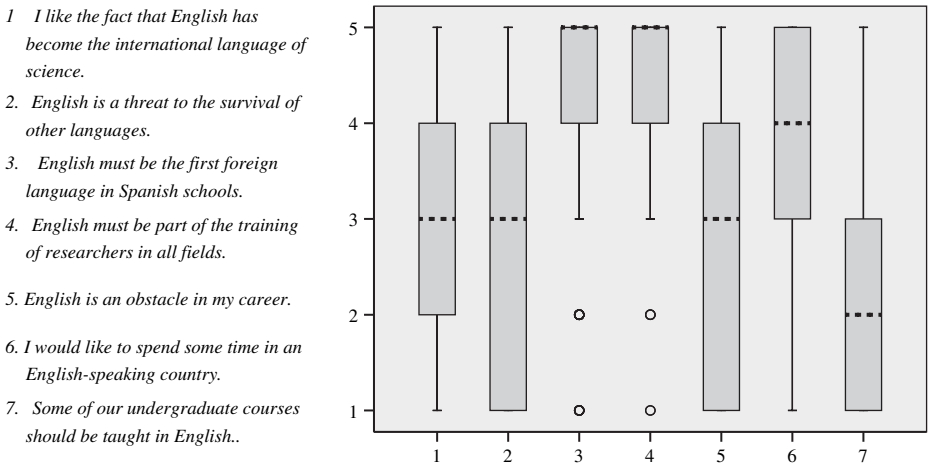

Fig. 6. Attitudes to English. Frequency distribution of reactions to seven statements about English on a five point scale, where 1 = ''do not agree at all''; 5 = ''completely agree'' ($N = 200$).

Although the use of English by the USC research community seems to be on the increase, it clearly plays a lesser role than in other non-Anglophone institutions previously investigated, potential collaborators and competitors. As expected, the levels of English use are far below those reported by similar studies in countries like Sweden and Switzerland (Gunnarsson, 2001; Murray & Dingwall, 2001), with a long tradition of English use both in everyday life and academy. More significantly, they are also well below those reported by Medgyes and László (2001) and Truchot (1990) in Hungary and France, two countries where, like in Spain, English has not traditionally held such a dominant position. The local languages are still clearly the default choice, notably in teaching and in informal communication exchanges. In contrast, English gains prominence in the dissemination of research results, both in written publications and conferences. But even for these functions, figures are consistently below those reported by specialists in other European universities in all areas of knowledge.

One major finding of the survey is the rather distinct roles of English in different areas. Consistent with the results of similar studies (Gunnarsson, 2001; Medgyes & László, 2001; Murray & Dingwall, 2001), USC specialists in Social Sciences and Humanities are less proficient in English and use the language rather less frequently than their colleagues in the Health Sciences and the Experimental Sciences departments. The starkest contrast between the two groups relates to their use of English for publication purposes. Paradoxically, no such differences were observed in their English reading practices: both humanists and social scientists are as eager ''consumers'' of specialised literature in English as their colleagues in the Experimental and Health Sciences, but unlike them their contribution to the internationally disseminated and highly influential body of knowledge in English is comparatively scarce. What these disparities between English reading and writing practices of the members of this group seem to indicate is a certain difficulty to make themselves visible in the international arena, and also a certain intellectual overdependence on foreign intellectual models.

Although English is undisputedly the most important foreign language of research at the USC, a relatively surprising finding of the study is the fairly plural nature of the foreign language practices of the respondents, compared to other research communities (Gunnarsson, 2001). The most polyglot departments are found again in Humanities and Social Sciences, a pattern also observed elsewhere (Gunnarsson, 2001). But some sectors of the staff in the ''harder'' sciences also make a relatively significant use of other foreign languages than English, particularly French and Portuguese.

Several reasons can be adduced for this. As regards Portuguese, its close linguistic affinity with Galician, the native language of many of the participants, surely allows a high degree of mutual comprehensibility, enough to ensure the viability of at least informal exchanges. As the first foreign language in Spanish schools until quite recently, many senior researchers had certainly received thorough formal instruction in French, which partly explains the moderately high figures of users of this language across areas. More generally, many departments have traditionally felt intellectually closer to continental Europe, and still do, judging by the observed preferences in destinations for research stays. In the

Law departments, for instance, English use and needs are minimal for the obvious reason that the Spanish Law system, as much of continental Europe's, is based on the Napoleonic Code, very dissimilar from Anglo-American Law.

The current polyglot nature of most of the university departments and the plurality of their international contacts pose an interesting problem for future language training initiatives. Given the presumably scarce resources available for these tasks, in the future a basic choice will need to be made between catering for the current multilingual needs of the staff and concentrating means and efforts in the teaching of English. Whatever the decision, it is bound to have important consequences. If, in accordance with ''the mood of the times'' and many of the respondents' wishes, English is prioritized, the profile of the international contacts of the USC will certainly be modified, leading to a certain increase of the contacts, and maybe dependence on Anglo-American research centres. If, on the other hand, the scant resources are invested in promoting different languages, the effort may turn out to be sterile given the current tendency towards more English dominance, and, what is more, might condemn the USC research community to ''miss the linguistic boat'' (Crystal, 2003, p. 23).

As usual the best possible answer may lie in the middle. Given the current ''market forces'', it would be rather imprudent for the USC not to do every possible effort to promote the learning and use of English by its research staff. But, in view of the current situation revealed by the survey, it would be equally unwise to follow an English-only strategy and not to try to preserve the foreign language capital that has accumulated in many departments. Supporting and encouraging their members to keep on using those other foreign languages would be justified on both practical and even ethical grounds.

Given the importance of writing for a successful career in most domains of science, writing practices were granted special attention in the survey. Most respondents need substantial external help with their papers, and for a large majority publication in English seems to be very costly and time-consuming. Although participants in the study often use expeditious methods to solve their English writing needs, notably translation, more ''indirect'' strategies are not infrequent, counting for this purpose on the assistance of different ''mediators'' (Lillis & Curry, 2006a). However, they rarely engage in networking practices, where scholars mutually support each other with their English-writing needs. The USC research staff seems to ignore and needs instruction into how to fully exploit this social capital (Lillis & Curry, 2006b) to help them with their massive English needs. We would contend that this capital is the more important in contexts such as the present one characterised by a relative deficit of supportive material resources.

One surprising finding of the study is the high importance attached by participants to the development of their oral skills. While some sectors of the staff, particularly in the Experimental Sciences, seem to estimate their current English writing competence already sufficient to go along, all the areas seem to be under increasing pressure to improve their English-speaking skills: they seem to be particularly sensitive to their oral deficits and demand learning methodologies and activities with a strong oral emphasis. Researchers' special concern with their oral needs may reflect their awareness that, unlike in writing, where one can always seek external help, in spoken interactions they can only rely on their own competences. Interviewed for this research, the deans of two of the faculties intimated that most of their Spanish colleagues especially dreaded the round of questions in English that followed the presentation of papers at conferences, fearing that they would not be able to understand the questions asked by the audience or to formulate comprehensible answers, and that their very scientific competence might be tainted by their poor linguistic performance. No significant training initiatives have been put up yet to respond to these English oral skills deficits expressed by the staff. As revealed by the survey, this is clearly a strongly felt need and should consequently be given top priority in any training programme, particularly for the specialists in the Experimental Sciences departments of this university.

More generally, this concern with their oral needs may indicate a developed awareness of the increasingly important role of orality in academic and research contexts. Different material and political factors have propitiated a dramatic increase in the international mobility of academics, with more opportunities for teacher exchanges, research stays and collaboration in international projects, among others. Common to these activities is the paramount importance of oral communication, often in a foreign language, between participating individuals and groups. Science is increasingly a collective enterprise, where people frequently meet face-to-face to exchange views and build bridges with other experts from their own and other fields, and collaborate to plan research, produce results and disseminate them as quickly as possible (Räisänen, 1999). Already oral communication seems to play a fundamental role in the functioning of many of the ''urban'' collectivities in science (Becher, 1989), even challenging the privileged position of writing (Swales, 2004). If these areas are to set the trend for the rest of science, as they did in the past, orality is bound to become increasingly important in science and, if English domination persists, oral competence in English will need to be given the logical priority in the training agenda of NNS too.

The USC research staff's moderately good disposition to take on responsibilities to function in an English-dominated setting contrasts bluntly with the sheer paucity of means made available by the institution to meet its members' needs. The existing in-house translation service is manifestly short-staffed, no language support service whatsoever exists for purposes of text revision and/or language advice, and English-language training activities are rare, at present only one paper-writing course per semester and with very limited attendance. Respondents are unanimous in considering it is mainly the responsibility of the institution to provide solutions for the English-language problems of its members, as clearly expressed by one of them: ''as a researcher I need to write in English if I want my work to be disseminated, but I find no assistance at all at the USC. If I want my articles to be well written, I have to pay for my own translations or corrections.'' The lack of institutional help is pushing many to seek solutions rather haphazardly: they trust their papers to amateur translators, whose poor work requires several rounds of painstaking and time-consuming language revision, and they participate in all sorts of English learning activities, including distance learning, clearly unsuitable for their specific needs.

In sum, although by no means comparable to the extreme lacks experienced by many Third World scientists (Canagarajah, 1996; Gibbs, 1995), the USC research community plainly lack much of the support they need to function satisfactorily in the English-dominated world of research and their material and language problems have probably little in common with those of more ''privileged'' groups of NNS. Swales (2004) proposes a new terminology to describe the complex situation of non-native speakers in science: while some are sufficiently proficient in English to lead successful careers, others are not and are probably at pains to make themselves and their work visible. He suggests that many senior researchers in Southern Europe might belong in this ''narrowly-proficient'' category. Indeed, his description of the characteristics of this group is reminiscent of those found in the present survey. He also mentions as a characteristic of this group the existence of significant generational differences, with younger scholars often surpassing seniors in English-language competence and skills. Although our survey does reveal the existence of such differences between age-groups in the level of English instruction, no similar differences have been observed in their self-assessed English competence. What this means is that the greater efforts in teaching English to the younger generations have not as yet translated into broader English proficiencies. This, given the practical implications of the finding, should be a matter of concern for local educational authorities.

Acknowledgements

This research project has been funded by Xunta de Galicia, grant number PGIDIT02PXIA20402PR.

References

Ammon, U. (1994). The present dominance of English in Europe. With an outlook on possible solutions to the European language problems. *Sociolinguistica, 8*, 1–14.

Ammon, U. (Ed.). (2001a). *The dominance of English as a language of science. Effects on other languages and language communities*. Berlin: Mouton de Gruyter.

Ammon, U. (2001b). English as a future language of teaching at German universities? A question of difficult consequences posed by the decline of German as a language of science. In U. Ammon (Ed.) (pp. 343–362).

Baldauf, R. B., & Jernudd, B. H. (1983). Language of publications as a variable in scientific communication. *Australian Review of Applied Linguistics, 6*, 97–108.

Becher, T. (1989). *Academic tribes and territories*. Buckingham, UK: Open University Press.

Burgess, S. (2002). Packed houses and intimate gatherings: audience and rhetorical structure. In J. Flowerdew (Ed.), *Academic discourse* (pp. 196–215). Edinburgh: Pearson.

Canagarajah, A. S. (1996). 'Nondiscursive' requirements in academic publishing, material resources of periphery scholars, and the politics of knowledge production. *Written Communication, 13*, 435–472.

Crystal, D. (2003). *English as a global language* (2nd ed.). Cambridge: Cambridge University Press.

Curry, M. J., & Lillis, T. (2004). Multilingual scholars and the imperativew to publish in English: negotiating interests, demands, and rewards. *Tesol Quarterly, 38*(4), 663–688.

Duszak, A. (2006). Looking globally, seeing locally: exploring some myths of globalisation in academia. *Revista Canaria de Estudios Ingleses, 53*, 35–46.

Eggington, W. G. (1987). Written academic discourse in Korean: implications for effective communication. In U. Connor, & R. Kaplan (Eds.), *Writing across languages: Analysis of L2 text* (pp. 153–168). Reading, MA: Addison-Wesley.

Flowerdew, J. (1999). Writing for scholarly publication in English: the case of Hong Kong. *Journal of Second Language Writing, 8*(2), 123–145.

Gibbs, W. W. (August 1995). Trends in scientific communication: lost science in the Third World. *Scientific American* 76–83.

Graddol, D. (1997). *The future of English. A guide to forecasting the popularity of the English language in the 21st century*. London: The British Council.

Gunnarsson, B.L. (2001). Swedish, English, French or German – the language situation at Swedish Universities. In U. Ammon (Ed.) (pp. 287–316).

Lillis, T., & Curry, M. J. (2006a). Professional academic writing by multilingual scholars. Interactions with literacy brokers in the production of English-medium texts. *Written Communication, 23*(1), 3–35.

Lillis, T., & Curry, M. J. (2006b). Reframing notions of competence in scholarly writing: from individual to networked activity. *Revista Canaria de Estudios Ingleses, 53*, 63–78.

Lorés Sanz, R. (2004). On RA abstracts: from rhetorical structure to thematic organization. *English for Specific Purposes, 23*, 280–302.

Martín Martín, P. (2005). *The rhetoric of the abstract in English and Spanish scientific discourse*. Frankfurt: Peter Lang.

Medgyes, P., & László, M. (2001). In U. Ammon (Ed.), *The foreign language competence of Hungarian scholars: ten years later* (pp. 261–286).

Mendieta, E., Phillipson, R., & Skutnabb-Kangas, T. (2006). English in the geopolitics of knowledge. *Revista Canaria de Estudios Ingleses, 53*, 15–26.

Moreno, A. I. (1997). Genre constraints across languages: causal metatext in Spanish and English. *English for Specific Purposes, 16*, 161–179.

Moreno, A. I., & Suárez, L. (2008). A study of critical attitude across English and Spanish academic book reviews. *Journal of English for Academic Purposes, 7*(1), 15–26.

Mur Dueñas, P. (2007). 'I/We focus on…' A cross-cultural study of self-mentions in business management research articles. *Journal of English for Academic Purposes, 6*, 143–162.

Murray, H. & Dingwall, S (2001). The dominance of English at European universities: Switzerland and Sweden compared. In U. Ammon (Ed.) (pp. 85–112).

Räisänen, C. (1999). *The conference forum as a system of genres*. Gothenburg, Sweden: Acta Universitatis Gothoburgensis.

Skudlik, S. (1990). *Sprachen in den Wissenschaften. Deutsch und Englisch in der internationalen Kommunikation*. Tübingen: Narr.

St.-John, M. J. (1987). Writing processes of Spanish scientists publishing in English. *English for Specific Purposes, 6*, 113–120.

Swales, J. (2004). *Research genres. Explorations and applications*. Cambridge: Cambridge University Press.

Truchot, C. (1990). *L'anglais dans le monde contemporain*. Paris: Robert.

Tsunoda, M. (1983). Les langues internationales dans les publications scientifiques et techniques. *Sophia Linguistica* 144–155.

Wood, A. (2001). International scientific English: the language of research scientists around the world. In J. Flowerdew, & M. Peacock (Eds.), *Research perspectives on English for academic purposes* (pp. 71–83). Cambridge: Cambridge University Press.

Francisco Javier Fernández Polo has a PhD in English Philology from the University of Santiago de Compostela (Spain). He is a Tenured Lecturer in English at this university, where he teaches a course on EAP research, and has published on contrastive rhetoric, popular science and, recently, needs analysis in EAP.

Mario Cal Varela has a PhD in English Philology from the University of Santiago de Compostela (Spain). He is a Lecturer in English at this university, where he teaches a course on EAP research, and has published on sociolinguistics of English and, recently, needs analysis in EAP.